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Role of Artificial Intelligence (A.I.) in Judiciary

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ABSTRACT

In the modern digital age, Artificial Intelligence (AI) is rapidly bringing changes in the judiciary and law enforcement. AI has created significant possibilities for transforming the functioning of judicial systems and law enforcement agencies. In the judiciary, AI is being used for case management, legal research, document analysis, transcription, translation, and improving access to justice. The Supreme Court of India's November 2025 report titled "White Paper on Artificial Intelligence and Judiciary" shows that serious institutional-level discussions are taking place regarding AI in the Indian judicial system. Currently, AI is improving judicial processes, case management, legal research, and law enforcement activities. By integrating AI into the judiciary and law enforcement, court operations can be streamlined. On the other hand, law enforcement agencies can use AI-based systems for crime pattern analysis, digital evidence examination, cybercrime investigation, detection of financial irregularities, and better resource utilization. UNESCO issued guidelines on December 3, 2025, regarding the use of AI in courts and tribunals, emphasizing that technology should strengthen justice, transparency, and trust. OECD highlighted the usefulness of AI in justice administration and access to justice on September 18, 2025, while the UNICRI-INTERPOL toolkit provides a practical framework for responsible AI innovation in law enforcement. This research paper analyzes the role of AI in the judiciary and law enforcement, its benefits, risks, ethical issues, and necessary policy measures. In conclusion, AI should not replace human decision-making but should be adopted as a transparent, accountable, and human-rights-compliant support tool.

Key words: Artificial Intelligence, Judiciary, Law Enforcement, Digital Justice, Algorithmic Bias, Transparency.

Introduction

In the modern era, judiciary and law enforcement institutions face many serious challenges such as increasing case backlog, judicial delays, complex crimes, rise in cybercrime, and citizens' expectations for fast and accessible justice. In this context, AI has emerged as a technological tool that can increase administrative efficiency, data analysis capability, and institutional capacity. Technologies such as Natural Language Processing (NLP), Machine Learning, Optical Character Recognition (OCR), and predictive analytics are being used to automate court work, improve case monitoring, and strengthen crime prevention. From the law enforcement perspective, AI is proving to be a powerful tool in criminal investigations. Due to digital and technological advancement, crimes have become more complex. To deal with this complexity, law enforcement agencies are continuously adopting AI tools to improve investigation and increase the chances of success.

Objectives of the Study

The main objectives of this research paper are:

1. To study the major areas of AI use in the judiciary.
2. To explain the role of AI in law enforcement.
3. To analyze the benefits of AI.
4. To identify ethical, legal, and constitutional challenges related to AI.
5. To present policy suggestions for responsible AI use.

Role of AI in Judiciary

The role of AI in the judiciary is mainly supportive and administrative in nature. Courts receive a large number of petitions, judgments, orders, documents, and evidence daily. AI can help in classification, indexing, searching, and summarizing these documents. This saves time for judges, lawyers, and researchers and helps in efficient case disposal.

Another important area is legal research. AI-based systems can quickly identify previous judgments, relevant laws, statutory provisions, and similar cases, making research more efficient and accessible.

The third area is transcription and translation. In multilingual societies, access to justice is possible only when judicial material is available in people's languages. According to UNESCO guidelines, AI should be used to improve efficiency, transparency, and trust in courts, but final judicial discretion must remain with humans.

Role of AI in Law Enforcement

In law enforcement, AI is more operational in nature. Police and investigation agencies can use AI for crime pattern analysis, digital evidence sorting, cybercrime detection, financial fraud investigation, video and image analysis, and efficient resource utilization.AI is particularly useful in cybercrime, online fraud, and cases involving large digital data because it helps identify patterns and anomalies in large datasets. However, AI use in law enforcement is sensitive because it directly affects civil liberties, privacy, and equality. Therefore, responsible AI governance is necessary.

a) AI is being used for predictive policing by analysing crime patterns, identifying high-risk areas and studying criminal behaviour so that police can take preventive action in advance. **b)** AI supports surveillance and investigation through automated drones that monitor crime scenes and help track suspects.

b) Facial recognition systems linked with national criminal databases assist in identifying suspects more quickly and accurately.

c) AI-powered forensic tools help examine evidence and analyse digital crime trails during investigations.

d) AI-driven speech-to-text technology enables real-time FIR filing and faster case documentation. AI is improving the analysis of witness testimony and evaluation of courtroom evidence.

e) AI strengthens the Crime and Criminal Tracking Network Systems (CCTNS) by enabling better data-driven crime tracking. AI integration with e-Prisons and e-Forensics databases improves coordination within the criminal justice system.

f) AI must clearly remain an assistive tool while final decision-making authority continues to rest with human judges. Clear ethical standards, transparency norms and accountability mechanisms must be established for AI use in courts.

g) Continuous training of judges and court staff is essential to ensure responsible and informed use of technology. Strong cybersecurity and data protection safeguards must be prioritised before expanding AI deployment.

h) AI applications should focus primarily on improving efficiency, transparency and accessibility rather than predicting or influencing final judicial outcomes.

Major Benefits of AI

AI has many benefits in both judiciary and law enforcement:

1. Increased efficiency.

2.Better accuracy and search capability

3. Improved access to legal information

4. Data-based policy making

5. Easier access to justice through translation and transcription.

6. Smart case listing, case prioritization, and backlog reduction.

7. AI legal assistants and chatbots for legal guidance Predictive analysis for case outcomes and risk assessment.

Reduction in Pendency: AI reduces case backlog through smart scheduling and better prioritization of pending matters.

Administrative Efficiency: AI improves administrative efficiency by automating routine tasks like case tracking and listing

Transparency and Accountability: Digitised transcripts and structured data enhance openness of proceedings and strengthen public confidence in the judiciary.

Democratisation of Justice: Through platforms like SUVAS, translation of judgments into regional languages expands accessibility and deepens inclusivity in a linguistically diverse society.

Better Legal Research Support: Tools such as SUPACE and LegRAA scan large volumes of judgments to extract facts and identify precedents, assisting judges in handling complex case law efficiently.

Increased Institutional Transparency: Live display of transcripts and publication of arguments on the Court's website enhance openness and public confidence in judicial proceedings.

Challenges and Risks

The biggest challenge of AI is algorithmic bias. If AI systems are trained on biased or incomplete data, they may repeat social and institutional biases, which is dangerous in judiciary and law enforcement.

Another challenge is opacity or black-box nature. If an AI system classifies a case as high-risk, the reasoning behind it must be explainable. Without explainability, procedural fairness may be affected.

The third challenge is privacy and data protection. Judicial and police institutions deal with sensitive personal data. Without proper safeguards, risks such as profiling, data leaks, and excessive surveillance may increase.

a. **Risk of Transcription Errors :** Even a single wrongly captured word during real-time transcription can have serious legal consequences.

b. **Data Sensitivity and Security :** Court proceedings and case records contain highly sensitive personal and commercial information, making data protection and sovereign deployment essential.

c. **Infrastructure Constraints :** Unreliable internet connectivity and power cuts in many courts pose challenges for smooth AI integration, particularly at lower court levels.

d. **Over-Reliance Concerns :** While AI assists in drafting, research and case management, excessive dependence may reduce human scrutiny if not properly monitored.

e. **Need for Human Verification :** AI-generated outputs still require real-time review and correction.

f. **Algorithmic Bias :** AI trained on biased datasets may reinforce systemic inequalities.

g. **Cost and Accessibility Barriers :** Specialised legal AI tools remain expensive, limiting their widespread adoption and forcing many lawyers to rely on general-purpose platforms.

h. **Trust Deficit in Adoption:** Initial scepticism among lawyers and judges, especially regarding document review and large data handling, reflects hesitation in fully trusting AI systems.

Ethical and Legal Dimensions

The use of AI in the judiciary relates to judicial independence, reasoned decisions, fair hearing, and equality principles. UNESCO guidelines clearly state that AI should support human-led justice, not replace it.

The same principle applies to law enforcement where due process, proportionality, accountability, and human rights protection are essential. Final decisions and responsibility must always remain with humans.

India and Global Perspective

In India, the Supreme Court's 2025 White Paper gave institutional recognition to AI discussions in the judiciary. Globally, UNESCO guidelines and OECD analysis show that the future of AI in justice systems is based on "adoption with safeguards" rather than uncontrolled automation.

AI Initiatives and Tools for Indian Judiciary

a) **SUPACE** (Supreme Court Portal for Assistance in Court's Efficiency. It is an AI tool launched SC in April 2021; the purpose is to improve judicial efficiency by providing assistance to judges with automating research, identifying relevant laws, and analyzing case facts. It analyses massive data thereby speeding up decision-making without replacing human discretion

b) **SUVAS** (Supreme Court Vidhik Anuvaad Software). It was launched on 26 November, 2019. It is used by Supreme Court and is capable of translating judicial documents, orders, and judgments from English into regional languages thereby making access to justice easy by providing regional language access to legal documents.

c) **TERES** (Transcription of Electronic Record and Speech). It is developed by Vikas Mahendra, Vinay Mahendra, and Badarivishal Kinhal of Bengaluru. The AI system is capable of live transcribing proceedings of Supreme Court.

d) **LegRAA** (Legal Research Analysis Assistant). It is developed under guidance of the ecommittee, Supreme Court of India. The purpose is to aid judges in legal research, document analysis, and judicial decision support. It is also part of the technology initiatives under Phase-III of the e-Courts Project to enhance judicial efficiency.

e) **E- Courts Phase III Project** . E-Courts Phase III (2023–2027) is a ₹7,210 crore initiative by the Government of India. The e- courts project focuses on developing digital ecosystem providing seamless, paperless interface between courts, litigants, and other stakeholders. It focuses on digitisation of courts including expansion of virtual courtrooms, adopting and encouraging trial by video conferencing and adoption of AIbased tools for scheduling and case management. It also aims to establish 4400 E-Sewa Kendras for facilitating citizens.

Suggestions

For responsible use of AI in judiciary and law enforcement:

1. Adopt Human-in-the-loop model.

2. Conduct bias audits, accuracy testing, and independent reviews.

3. Apply strict standards in facial recognition and predictive policing.

4. Develop clear AI governance frameworks.

5. Ensure data protection, privacy safeguards, and audit trails.

6. Provide AI ethics and literacy training to judges, police, and legal professionals.

7. Provide complaint and challenge mechanisms for citizens.

Conclusion

The future of AI in judiciary and law enforcement is very promising, but it also has challenges. Data security, algorithm transparency, ethics, legal and social standards must be maintained. AI is emerging as a transformative force in the judiciary and law enforcement. It can make judicial administration more organized, research-oriented, accessible, and efficient, and help law enforcement agencies deal with complex crimes and digital evidence. However, AI should not become a tool for automated justice or unlimited surveillance. The best approach is to use AI as a human-controlled, transparent, accountable, and rights-compliant support tool. This approach can create a balance between justice and technology.

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